

ABSTRACT

The present invention provides a multi-step aqueous composition useful for polishing a tantalum barrier material and copper from a semiconductor wafer, comprising by weight percent 0.1 to 30 oxidizer, 0.01 to 3 inorganic salt or acid, 0.01 to 4 inhibitor, 0.1 to 30 abrasive, 0 to 15 complexing agent and balance water, wherein the aqueous composition has a pH between 1.5 to 6.